

~~means for pumping said irrigation fluid through the irrigation tubing to a surgery site in a patient;~~

a suction tubing connected to a suction container;

means for suctioning fluid from the patient at the surgery site through the suctioning tube; and

a fluid sensor surrounding a portion of the irrigation tubing for detecting the presence of irrigation fluid within the irrigation tubing.

47. The manual fluid control system of Claim 46 further comprising a safety relay which shuts off said pumping means when irrigation fluid is not present in the irrigation tubing.

48. A manual fluid control system for surgical lasers and electrosurgery apparatus, for both open and laparoscopic procedures, comprising, in combination:

at least one fluid irrigation container;

an irrigation tubing connected to said at least one fluid irrigation container;

a valve connected to the irrigation tubing for accessing irrigation fluid in said at least one fluid irrigation container;

means for pumping said irrigation fluid through the irrigation tubing to a surgery site in a patient;

a suction tubing connected to a suction container; and

means for suctioning fluid from the patient at the surgery site through the suctioning tube;

wherein said suctioning means comprises at least one of an independent suctioning means and a suctioning means contained within an automatic smoke evacuator system.

49. A manual fluid control system for surgical lasers and electrosurgery apparatus, for both open and laparoscopic procedures, comprising, in combination:

at least one fluid irrigation container;

an irrigation tubing connected to said at least one fluid irrigation container;

a valve connected to the irrigation tubing for accessing irrigation fluid in said at least one fluid irrigation container;

means for pumping said irrigation fluid through the irrigation tubing to a surgery site in a patient;

~~a suction tubing connected to a suction container;~~

~~means for suctioning fluid from the patient at the surgery site through the suctioning tube; and~~
~~a pressure sensor connected to said irrigation tubing prior to a point of delivery within the patient.~~

50. The manual fluid control system of claim 49 further comprising a pressure controller connected to said pressure sensor which shuts off said pumping means when fluid pressure reaches a predetermined unsafe level.

51. A manual fluid control system for surgical lasers and electrosurgery apparatus, for both open and laparoscopic procedures, comprising, in combination:

a first fluid irrigation container;

a first irrigation tubing connected to said first fluid irrigation container;

a first valve connected to the irrigation tubing for accessing irrigation fluid in said first fluid irrigation container;

means for pumping said irrigation fluid through said first irrigation tubing to a surgery site in a patient;

a suction tubing connected to a suction container;

means for suctioning fluid from the patient at the surgery site through the suctioning tube; and

a second fluid irrigation container connected to a second irrigation tubing having a second valve for accessing irrigation fluid in the second fluid irrigation container wherein the first and second irrigation tubings are connected to a "Y" connector at a point subsequent to the attachment of their respective valves thereby resulting in a single irrigation conduit.

52. The manual fluid control system of Claim 51, further comprising a container controller connected to a safety relay which, upon failure to detect irrigation fluid within the first irrigation tubing by the fluid sensor, closes the valve connected to the first irrigation tubing and opens the second valve to access irrigation fluid contained within the second fluid irrigation container.

53. The manual fluid control system of claim 52, further comprising an alarm element connected to the container controller which activates at least one of a voice and warning signal indicating that the fluid irrigation container presently in use is empty.

54. A manual fluid control system for surgical lasers and electrosurgery apparatus, for both open and laparoscopic procedures, comprising, in combination:

at least one fluid irrigation container;

an irrigation tubing connected to said at least one fluid irrigation container;

a valve connected to the irrigation tubing for accessing irrigation fluid in said at least one fluid irrigation container;

means for pumping said irrigation fluid through the irrigation tubing to a surgery site in a patient;

a suction tubing connected to a suction container;

means for suctioning fluid from the patient at the surgery site through the suctioning tube; and

a vacuum sensor connected to said suction tubing wherein said vacuum sensor comprises means for disconnecting said suctioning means and said pumping means upon detection of an unsafe vacuum pressure.

55. An automatic fluid control system for surgical lasers and electrosurgery apparatus, for both open and laparoscopic procedures, comprising, in combination:

at least one fluid irrigation container;

at least one irrigation tubing connected to said at least one fluid irrigation container;

at least one valve connected to said at least one irrigation tubing for accessing irrigation fluid in said at least one fluid irrigation container;

means for employing a surgical device;

means for irrigating said irrigation fluid through the irrigation tubing to a site of the surgical device wherein the means for irrigating is connected to said means for employing a surgical device such that said irrigating means is activated upon deactivation of said surgical device;

a suction tubing connected to a suction container; and

means for suctioning fluid from the patient at the surgery site through the suctioning tube.

56. The automatic fluid control system of Claim 55 wherein the suction and irrigation tubings are contained within, and connected to, a surgical pencil such that

suction and irrigation occurs at a tip of the surgical pencil where at least one of surgical cutting and coagulation takes place.

57. The automatic fluid control system of Claim 55 further comprising a fluid sensor surrounding a portion of the irrigation tubing for detecting the presence of irrigation fluid within the irrigation tubing.

58. The automatic fluid control system of Claim 57 further comprising a safety relay which shuts off said irrigation means when irrigation fluid is not present in the irrigation tubing.

59. The automatic fluid control system of Claim 55 wherein said suctioning means comprises at least one of an independent suctioning means and a suctioning means contained within an automatic smoke evacuator system.

60. The automatic fluid control system of Claim 55 further comprising a pressure sensor connected to said irrigation tubing prior to a point of delivery within the patient.

61. The automatic fluid control system of Claim 60 further comprising a pressure controller connected to said pressure sensor which shuts off said irrigation means when fluid pressure reaches a predetermined unsafe level.

62. The automatic fluid control system of Claim 55 further comprising a second fluid irrigation container connected to a second irrigation tubing having a second valve for accessing irrigation fluid in the second fluid irrigation container wherein the first and second irrigation tubings are connected to a "Y" connector at a point subsequent to the attachment of their respective valves thereby resulting in a single irrigation conduit.

63. The automatic fluid control system of claim 62 further comprising a container controller connected to the safety relay which, upon failure to detect irrigation fluid within the first irrigation tubing by the fluid sensor, closes the valve connected to the first irrigation tubing and opens the second valve to access irrigation fluid contained within the second fluid irrigation container.

64. The automatic fluid control system of Claim 63 further comprising an alarm element connected to the container controller which activates at least one of a voice and warning signal indicating that the fluid irrigation container presently in use is empty.